WEATHER OF THE MONTH.

WEATHER OF NORTH AMERICA AND ADJACENT OCEANS.

GENERAL CONDITIONS.

By A. J. HENRY, Meteorologist.

The month as a whole was characterized by unusual climatic extremes—severe cold in localities and high temperature in others. Flood-producing rains fell in the East Gulf States, while there was a marked deficiency in adjoining regions. Two rainstorms which overlapped were responsible for one of the greatest floods in the rivers of Alabama and Georgia within the last 25 years.

Very stormy conditions prevailed over the North Atlantic, although the storms of the continental area to the westward were not unusually severe.

NORTH PACIFIC OCEAN.

By F. G. TINGLEY, Meteorologist.

December appears to have been a quiet month on the North Pacific Ocean. Only one vessel of some 75 which have thus far reported made special mention of stormy weather. Winds of gale force were experienced on a total of 43 days of the 533 covered by reports of ships on trans-Pacific routes.

The American S. S. *Saint Francis*, Capt. N. Y. Okland, from Honolulu for Yokohama, reports that on December 1, while in latitude 21° 25′ N., longitude 160° 20′ E., three waterspouts were observed; also, on the same day, a lunar rainbow.

NORTH ATLANTIC OCEAN.

By F. A. YOUNG.

The average pressure for the month was nearly normal or slightly above at land stations on the American coast, including the Gulf of Mexico, and also the Bermudas. The pressure at the Azores was considerably higher than usual, while it was well below the normal on the coast of northern Europe, causing an abnormally steep gradient between the Azores HIGH and the Icelandic LOW, that was responsible for the unusually heavy winds that prevailed over the region intervening. In a number of 5-degree squares near mid-ocean, winds of gale force were observed on 11 days, which is considerably above the normal as shown on the Pilot Chart for December. There was practically not a day in the month on which heavy weather was not experienced in some portion of the ocean.

The disturbance that was shown on Charts XIII and XIV for November 29 and 30, respectively, drifted slowly eastward and on December 1 the center was near latitude 56°, longitude 17° (see Chart IX); it had decreased considerably in intensity, as only moderate winds were reported. On the same day there was a second LOW of much greater force, central a short distance east of St. Johns, Newfoundland. The storm area extended from the 30th meridian to the coast of Newfoundland, and a number of vessels encountered southwesterly gales of from 50 to 60 miles an hour, accompanied by rain or hail. This disturbance moved eastward with a fairly uniform rate of movement, attended by little change in conditions of wind and weather, and on the 3d was off the coast of northern Europe (see Charts X and XI). On the 4th and 5th, moderate to strong gales, with comparatively high barometer readings prevailed over a limited territory covering the eastern part of the steamer lanes, and on the 6th and 7th heavy northerly winds were encountered off the British coast. From the 10th to the 13th, as shown on Charts XII, XIII, XIV, and XV, heavy gales swept the greater portion of the northern division of the ocean, accompanied by rain, hail, and snow. The observer on the Norwegian S. S. *Ranenfjord* states in the storm log that the gale began on the 9th. Lowest barometer, 28.56 inches at 11 a. m. on the 12th, winds WSW., force 11; position 52° 20′ N., 45° 45′ W. End of gale on the 14th, highest force 11. Shifts of wind near time of lowest barometer SE.–S.–SW.–W.–WNW.

The log from the British S. S. *Suwanee* is as follows: "Gale began on the 11th. Lowest barometer, 29.16 inches at 8 a. m. on the 11th; position, 49° 55′ N., 44° 50′ W. End of gale on the 13th; highest force, 10; shifts of wind WSW.-SW."

From the 14th to the 20th reports were received from widely scattered positions over the ocean denoting winds of gale force, although there was not enough data from northern waters to determine the conditions accurately. On the morning of the 14th the station at New York reported a southwest gale of about 50 miles an hour, while at the same time a vessel near latitude 36°, longitude 69°, encountered southerly winds of the same force.

On the 17th the British S. S. *Tullamore*, while about 300 miles north of Bermuda, encountered a southwesterly gale, the storm log being as follows: "Gale began on the 16th. Lowest barometer, 29.52 inches at 4 p. m. on the 17th; position, 36° 32′ N., 63° 52′ W. End of gale on the 18th. Highest force of wind, 11. Shifts WSW.-NW." The British S. S. *Hotham Newton*, on her voyage from the British Isles to New York, extending from December 21 to January 10, ran into a succession of gales, and on only two days from the time she left Swansea until January 6 were wind velocities of less than 40 miles an hour recorded at time of observation. Her storm log is as follows: "Gale began on December 20. Lowest barometer, 29.14 inches on the 28th; position, 47° 50′ N., 26° 30′ W. End of gale on the 30th. Highest force of wind, 11; shifts WSW.-NW." During the 21st and 22d this gale swept the British Isles, although the storm area extended well into mid-ocean. The storm log of the British S. S. *Ernmore* is as follows: "Storm began on the 22d. Lowest barometer, 29.40 inches at noon on the 23d; position, 53° 56′ N., 51° 57′ W. End of gale on the 24th. Highest force of wind, 10; shifts WSW.-W."

From the 23d to the 27th strong westerly and southwesterly gales, accompanied by hail, prevailed over the region between the 30th meridian and the European coast, although reports were received from several vessels in this area that experienced only moderate winds.

From the 28th to the 30th moderate gales were prevalent over the southern steamer routes between the 20th and 40th meridians, extending on the latter date as far south as the Azores. On the 31st the disturbance had increased considerably in intensity, while its easterly drift had been slight since the 28th, as it was now central near latitude 51°, longitude 25°. A number of vessels